

REMARKS

This Amendment is being filed, together with a Request for Continued Examination (RCE), in response to the Advisory Action mailed by the Patent Office on December 23, 2008. The present Amendment and RCE are being filed in lieu of the Brief on Appeal due on January 15, 2009.

In the Specification, Table 2 has been amended by amending the values of Fracture Rate X for Comparative Examples 1 and 3. The previous values were erroneous due to obvious typographical errors. The correct Fracture Rate values of 0.456 for Comparative Example 1 and 0.360 for Comparative Example 3 were previously set forth on page 13 of the Amendment After Final Rejection filed on December 10, 2008. The Amendment After Final Rejection also provided a detailed explanation of how all of the values of the Fracture Rate X parameter were calculated and readily derivable from data present in the application as filed. (See, e.g., pages 11-13 of the Dec. 10, 2008 Amendment After Final and pages 13-14 of the Specification as filed). No new matter has been added.

In the Advisory Action dated December 23, 2008, the Patent Office indicated that the amendments proposed in the Amendment After Final would not be entered on the grounds that they raised

new issues that would require further consideration and/or search. In addition, the Examiner indicated that some of the amendments appeared to raise new matter issues, and advised the applicant that the next response should include more detailed explanations and citations to explain how the amendments are adequately disclosed in the specification as originally filed.

The Claim Limitation that the Fracture Rate X of the Inorganic Spherical Hollow Material is 0.045 to 0.094 is Fully Supported by the Application as Filed

In the Advisory Action, the Examiner asserted that "specifically discrete data points from examples does not provide adequate disclosure for claiming a continuous range." Applicant disagrees, and submits that the limitation that the fracture rate of the inorganic spherical hollow material is 0.045 to 0.094 is adequately supported in the specification.

The standard for determining whether a claim limitation is adequately supported under 35 U.S.C. § 112, ¶ 1, is whether the originally-filed specification "conveyed with reasonable clarity to those of ordinary skill that [the inventor] had in fact invented the [invention] recited in those claims." Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, 1119 (Fed. Cir. 1991). Where the

limitation at issue is a range, as is the case here, the Federal Circuit has stated that the "issue is whether one skilled in the art could derive the claimed ranges from the [original] disclosure." Id.

The application as filed described wholly aromatic liquid crystal polyester resin products having various characteristics. The specification included descriptions of six specific embodiments of liquid crystal polyester resin products according to the invention (Examples 1-6) and six comparative examples (Comparative Examples 1-6). From the data provided in the specification as filed, the Fracture Rate X values for the six Examples and the relevant Comparative Examples are easily derived by one skilled in the art, as is clear from the discussion at pages 11-13 of the Amendment After Final filed on December 10, 2008. The calculated values of X for the six Examples of the invention all lie within a range bounded by a low value of 0.045 (Example 2) and a high value of 0.094 (Example 4). Thus, the claim limitation that the fracture rate X of the inorganic spherical hollow material is 0.045 to 0.094 is clearly and adequately supported by the original disclosure.

The adequacy of the support for this limitation is further bolstered by the cited Maeda reference, which also describes a

liquid crystal polyester resin composition. The Maeda reference at paragraphs [0035], [0036], [0041], [0042] and [0045]-[0047] indicates that the fracture rate of hollow sphere filler material, or "X", was a parameter that was known in the art at the time of the present invention. Moreover, Maeda further demonstrates that it was known to express the value of X in terms of a continuous range. See, e.g., para. [0035] ("the liquid crystal polyester resin composition of the invention has an X value...of 10 to 50").

It is further noted that Maeda expresses X values in terms of percentage (i.e., 10% to 50%) which corresponds to the range of 0.1 to 0.5 according to the definition of X in the present invention. Maeda's range of 0.1 to 0.5 is outside of the range of X specified in the present claims (0.045 to 0.094), thus the present claims are clearly distinguishable from Maeda.

Moreover, Maeda states at para. [0042] that "[t]he value X of less than 10 [i.e., 0.1 as defined in the present invention] is *not preferred* from the viewpoint of reproducibility on production and strength." (emphasis added). This is a clear teaching away from the compositions of the present claims, in which the upper limit of X is 0.094, and further supports the patentability of the present invention.

The present claims also distinguish over Maeda by specifying a dielectric constant of 3.0 or less. Maeda does not specify the dielectric constant of the disclosed composition, however the applicant believes that Maeda is unable to achieve the advantageous low dielectric constant of the present invention due to the comparatively higher fracture rate values of the Maeda composition. The relationship between fracture rate and dielectric constant is graphically illustrated in Graph 1, which was previously submitted in Amendment filed June 26, 2008, and is being re-submitted herewith for the Examiner's convenience. As can be seen from Graph 1, Examples 1-6 of the present invention all have fracture rate (X) values between 0.045 and 0.094 and dielectric constants of less than 3.0. The same is also true of Comparative Example 4, which is not an embodiment of the present claims due to its low melting point (i.e., less than 320 deg. C). By contrast, Comparative Examples 1 and 3 include fracture rates that are outside of the presently-claimed range (0.456 and 0.360, respectively), but are within the range (0.1 to 0.5) taught by the cited Maeda reference. Significantly, Comparative Examples 1 and 3 exhibit high dielectric constants (3.11 and 3.12, respectively) that are outside of the claimed range of less than 3.0. Applicant submits that the relationship between fracture rate and dielectric

constant is clear from the disclosure of the present invention, and that the Maeda reference, which teaches high fracture rates of 0.1 to 0.5, would not provide the advantageous low dielectric constants of the present invention.

#### Support for "E" Calculations

In the Advisory Action, the Examiner asserted that it was unclear how E was calculated, either in the application as originally filed or in the new corrected manner.

As can be seen from Table 2 of the priority document (see page 20 of JP 2002-185354), "E" is shown in the top row, third column from the left, in the area corresponding to the "Fractured Micro Hollow Body (wt%)" in Table 2 of the present application. However, in the originally-filed English translation of this application, E was left out by clerical error. E has been added back to Table 2.

With regard to the calculation of E, on page 14, line 18 of the present application, the "percent by weight of fractured inorganic spherical hollow material," which is the same as the "Fractured Micro Hollow Body (E) (wt%)" of Table 2, is defined as equal to the product of  $\gamma$  (percent by weight of inorganic spherical hollow material) and X (fracture rate of inorganic

spherical hollow material). Therefore, E is equal to  $\gamma X$ , and the corrected E values in Table 2 are calculated from on the values of  $\gamma$  and X, as was described in detail on pages 11-13 of the Amendment After Final.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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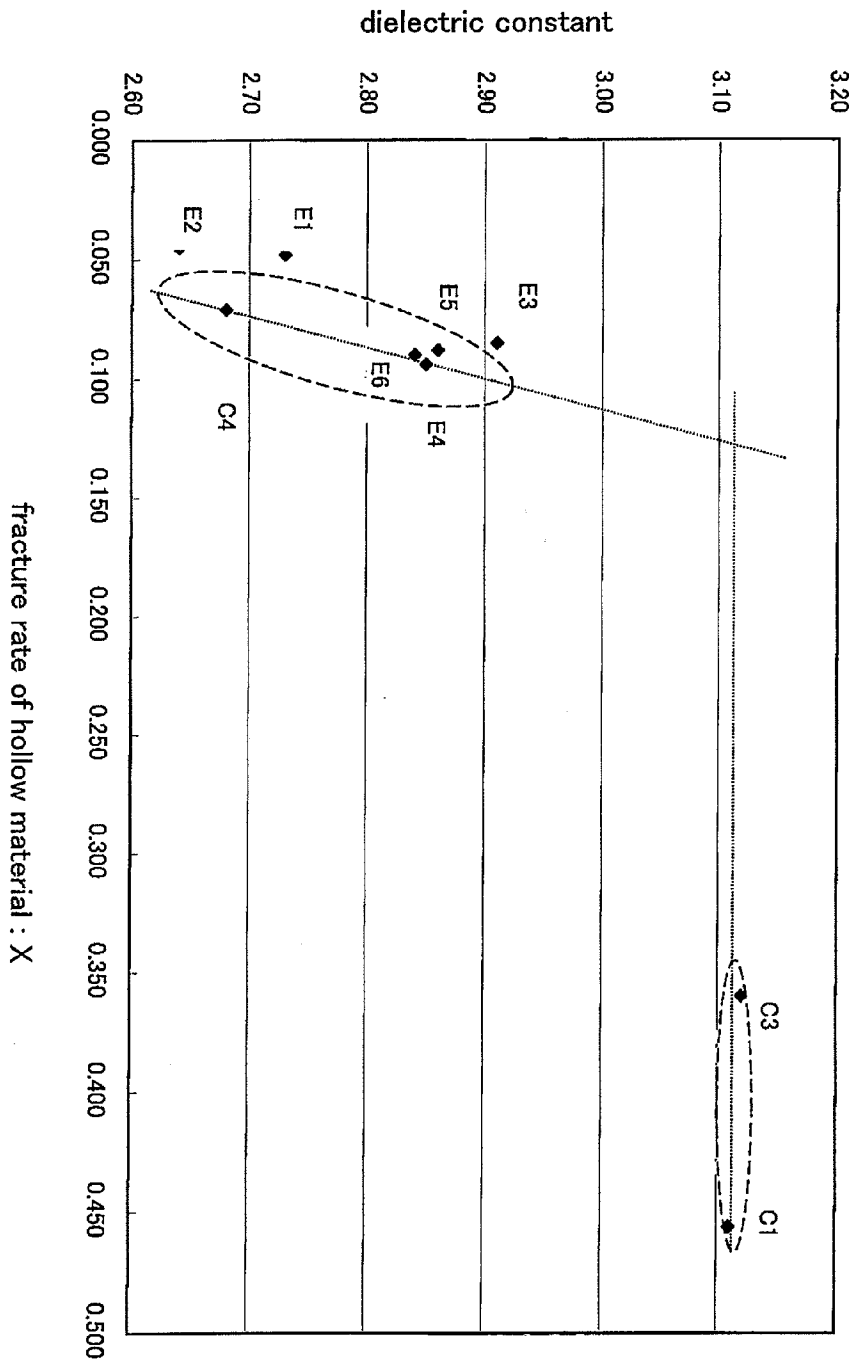
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Graph 1



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